



UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D.C. 20555-0001

June 17, 2011

Mr. Gary L. Clark
TRUPACT-III Program Manager
AREVA Federal Services LLC
1102 Broadway Plaza, Suite 300
Tacoma, WA 98402

SUBJECT: CERTIFICATE OF COMPLIANCE NO. 9305 FOR THE MODEL NO. TRUPACT-III (TAC NO. L24535)

Dear Mr. Clark:

As requested by your application dated April 28, 2011, enclosed is Certificate of Compliance No. 9305, Revision No. 1, for the Model No. TRUPACT-III package. Changes made to the enclosed certificate are indicated by vertical lines in the margin. The staff's Safety Evaluation Report is also enclosed.

AREVA Federal Services LLC has been registered as a user of the package under the general license provisions of 10 CFR 71.17. Those on the attached list have been registered as users of the package under the general license provisions of 10 CFR 71.17 or 49 CFR 173.471. The approval constitutes authority to use the package for shipment of radioactive material and for the package to be shipped in accordance with the provisions of 49 CFR 173.471.

If you have any questions regarding this certificate, you may contact me or Jennie Rankin of my staff at 301-492-3268.

Sincerely,

A handwritten signature in black ink that reads "M.D. Waters".

Michael D. Waters, Chief
Licensing Branch
Division of Spent Fuel Storage and Transportation
Office of Nuclear Material Safety
and Safeguards

Docket No. 71-9305
TAC No. L24535

Enclosures: 1. Certificate of Compliance
No. 9305, Rev. No. 1
2. Safety Evaluation Report
3. Registered Users

cc w/encl 1 & 2: R. Boyle, Department of Transportation
J. Shuler, Department of Energy
Registered Users

**CERTIFICATE OF COMPLIANCE
FOR RADIOACTIVE MATERIAL PACKAGES**

1. a. CERTIFICATE NUMBER	b. REVISION NUMBER	c. DOCKET NUMBER	d. PACKAGE IDENTIFICATION NUMBER	PAGE	PAGES
9305	1	71-9305	USA/9305/B(U)F-96	1	OF 4

2. PREAMBLE

- a. This certificate is issued to certify that the package (packaging and contents) described in Item 5 below meets the applicable safety standards set forth in Title 10, Code of Federal Regulations, Part 71, "Packaging and Transportation of Radioactive Material."
- b. This certificate does not relieve the consignor from compliance with any requirement of the regulations of the U.S. Department of Transportation or other applicable regulatory agencies, including the government of any country through or into which the package will be transported.

3. THIS CERTIFICATE IS ISSUED ON THE BASIS OF A SAFETY ANALYSIS REPORT OF THE PACKAGE DESIGN OR APPLICATION

- | | |
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| a. ISSUED TO (<i>Name and Address</i>)
AREVA Federal Services LLC
1102 Broadway Plaza, Suite 300
Tacoma, WA 98402 | b. TITLE AND IDENTIFICATION OF REPORT OR APPLICATION
AREVA Federal Services LLC
application dated June 30, 2007, as supplemented. |
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4. CONDITIONS

This certificate is conditional upon fulfilling the requirements of 10 CFR Part 71, as applicable, and the conditions specified below.

5.

(a) Packaging

- (1) Model No.: TRUPACT-III Package
- (2) Description

A package used to transport transuranic waste contained in a Standard Large Box 2 (SLB2) primarily by highway trucks. The packaging body is a rectangular box with an external width of 2,500 mm (98.4 inches), external height of 2,650 mm (104.3 inches), and an external length of 4,288 mm (168.8 inches). The internal cavity dimensions are 1,840 mm (72.4 inches) wide, 2,000 mm (78.7 inches) tall, and 2,790 mm (109.8 inches) long.

The TRUPACT-III packaging is comprised of the containment structural assembly (CSA) made from 8-mm inner and outer stainless steel plates with 4-mm thick V-shaped stiffeners in between. A debris shield receptacle is located all around the open end of the CSA inner cavity. The receptacle is a 26-mm x 38-mm cross section bar with a 15-mm wide by 20-mm deep groove cut along its length. The 109 - 120-mm polyurethane foam, 10-mm thick puncture resistant stainless steel plate, 60-mm balsa wood layer, and the 6-mm stainless steel skin form the integral energy-absorbing overpack structure. A 409-mm deep octagonal recess in the bottom end with 6-mm thick stainless steel plate, a 60-mm thick balsa wood layer, a 15-mm thick puncture-resistant stainless steel plate, and a 120-mm thick foam layer protect the bottom end of the packaging during drops or punctures.

A rectangular closure lid made from 4-mm thick V-shaped stiffeners sandwiched between an inner and an outer 12-mm thick stainless steel plate is attached to the packaging body

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5.(a) Packaging (continued)

by 44 socket head cap screws and contains two elastomer O-ring face seals. A sampling/vent port with elastomer O-ring seals is recessed into the closure lid. The inner stainless steel plates of the closure lid and the body along with the inner elastomer O-ring seal, the sampling/vent port insert, and the sampling/vent port inner elastomer O-ring seal form the single containment boundary.

An overpack cover is designed to protect the closure lid. The outer face of the overpack cover contains an octagonal recess 393 mm deep. The cover structure consists of a 6-mm thick stainless steel cover sheet plate encasing a 60-mm thick layer of balsa wood, a 15-mm thick puncture resistant stainless steel plate, a 120-mm thick layer of polyurethane foam, and a 6-mm thick inner stainless steel cover plate. The edges of the overpack cover consist of an inner 6-mm stainless steel plate, a 42-mm thick layer of calcium silicate insulation, a 16-mm thick puncture-resistant stainless steel plate, a 380-mm thickness of 0.48 kg/dm³ polyurethane foam, a 6-mm thick puncture-resistant stainless steel plate, a 140-mm thick layer of 0.16 kg/dm³ polyurethane foam, and an 8-mm thick external stainless steel plate.

The approximate dimensions and weights of the package are as follows:

Overall package outside dimensions

Width	2,500 mm (98.4 inches)
Length	4,288 mm (168.8 inches)
Height	2,650 mm (104.3 inches)
Maximum content weight	5,210 kg (11,486 lbs)
Maximum package weight (Including contents)	25,000 kg (55,116 lbs)

(3) Drawings

The packaging is constructed in accordance with AREVA Federal Services LLC, Drawing Nos. 51199-SAR, Rev. 3, sheets 1 through 21.

(b) Contents

(1) Type and form of material

Dewatered, solid or solidified transuranic contaminated materials and wastes, any particle size, large objects, and bulky objects are directly loaded into an SLB2 to be placed in a TRUPACT-III packaging, in accordance with TRUPACT-III TRAMPAC, Revision 2.

(2) Maximum quantity of material per package

The TRUPACT-III packaging is designed to transport contact-handled transuranic (CH-TRU) waste and other authorized payloads that do not exceed 10⁵ A₂ quantities. No more than

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5.(b) Packaging (continued)

325 grams of Pu-239 fissile gram equivalent (FGE) is generally allowed per TRUPACT-III package. Per the TRUPACT-III TRAMPAC, Revision 2, the FGE limit per TRUPACT-III package may be increased if the payload is documented to contain Pu-240. A TRUPACT-III payload shall not contain greater than 1 percent by weight beryllium and/or beryllium oxide nor machine compacted waste. Only one SLB2 may be loaded in a TRUPACT-III package at a time.

(3) Maximum decay heat per package not to exceed 80 watts.

5.(c) Criticality Safety Index (CSI): 0

6. The package is for transport of the CH-TRU materials and other authorized payloads that are limited in form to solid or solidified material. Materials must be restricted to prohibit explosives, corrosives, nonradioactive pyrophorics, and pressurized containers. Within a payload container, radioactive pyrophorics must not exceed 1 percent by weight, and residual liquid volumes greater than 1 percent are prohibited.
7. Limits for physical, nuclear, chemical, and gas generation properties shall be as defined in the TRUPACT-III TRAMPAC, Revision 2.
8. Hydrogen must be limited to a molar quantity that would be no more than 5% by the volume of the innermost layer of confinement during transport.
9. Each payload shipping container must be assigned to a shipping category in accordance with TRUPACT-III TRAMPAC, Revision 2, Section 5.0.
10. The gas generated in the payload and released into the cavity shall be controlled to maintain the pressure within the containment vessel below the acceptable Maximum Normal Operating Pressure of 25 psig.
11. Venting and aspiration are required to the TRUPACT-III containers stored in an unvented condition prior to transport, to ensure equilibration of gases that may have accumulated in the closed container in accordance with TRUPACT-III TRAMPAC, Revision 2, Section 5.3.
12. In addition to the requirements of Subpart G of 10 CFR Part 71:
 - (a) Each package shall be operated and prepared for shipment in accordance with Chapter 7 of the application, as supplemented.
 - (b) Each package shall be acceptance tested and maintained in accordance with Chapter 8 of the application, as supplemented.

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13. The package authorized by this certificate is hereby approved for use under the general license provisions of 10 CFR 71.17.
14. Transport by air of fissile material is not authorized.
15. Expiration date: June 30, 2015.

REFERENCES

AREVA Federal Services LLC application dated June 30, 2007, as amended January 26, 2010, May 28, 2010, and April 28, 2011.

FOR THE U.S. NUCLEAR REGULATORY COMMISSION



Michael D. Waters, Chief
Licensing Branch
Division of Spent Fuel Storage and Transportation
Office of Nuclear Material Safety
and Safeguards

Date: June 17, 2011



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NUCLEAR REGULATORY COMMISSION**
WASHINGTON, D.C. 20555-0001

SAFETY EVALUATION REPORT
Docket No. 71-9305
Model No. TRUPACT-III
Certificate of Compliance No. 9305
Revision No. 1

SUMMARY

By application dated April 28, 2011, AREVA Federal Services LLC (AFS), requested a revision to Certificate of Compliance No. 9305, for the Model No. TRUPACT-III package. This revision clarified some of the design details defined on the TRUPACT-III General Arrangement Drawings, corrected subsection numbering and an incorrect tightening torque, and simplified the lifting hardware operational steps in Chapter 7.0. The remaining sections (e.g., structural, thermal, containment, shielding, criticality, acceptance tests and maintenance programs) were not affected by this revision. The requested clarifications and corrections do not affect the safety basis of the TRUPACT-III package. Based on the statements and representations in the application, the staff agrees that these changes do not affect the ability of the package to meet the requirements of 10 CFR Part 71.

EVALUATION

GENERAL INFORMATION

AFS revised the TRUPACT-III General Arrangement Drawing – 51199-SAR as follows:

- Sheet 1
 - Added optional material for pop rivets and equivalent metric channel UPN 100 x 50 x 6 for material availability considerations.
 - Revised the material specification of helium port plugs to allow for generic brass or stainless steel materials. These plugs only prevent contaminants from entering the inner cavities.
- Sheet 2
 - Revised the quantity of optional plugs from 8X to 10X to allow use of plugs in all of the overpack cover access holes.
 - Added a note to clarify weld specification (flag note 47) and to require liquid penetrant examination following final machining.
- Sheet 8
 - Clarified the position of dimension arrow for the 190 mm width dimension.
- Sheet 14
 - Added a "Centerline" clarification to "R10" radius callout for the debris shield retainer.
 - Corrected the spelling of "THROAT."
 - Added as-welded flush symbol to groove weld specification.
 - Changed block tolerance from +/- 3 mm to specific tolerance of +6/-3 mm for the thickness of the 20 mm thick inner frame plate.

- Sheet 19
 - Added flag note 47 to bevel weld specification.
- Sheet 20
 - Added as-welded flush symbol to groove weld specification.
 - Revised the inside radius of containment plates from "R10 TYP" to "R7 MIN TYP."

The modifications and additions were made to clarify the descriptions already included in the Safety Analysis Report and to provide additional operation descriptions found by the applicant to be necessary. These modifications do not affect any critical dimension or safety basis and will not impact the performance of the package design. The staff finds that the General Arrangement Drawing continues to meet the requirements of 10 CFR Part 71.

PACKAGE OPERATION

AFS revised Chapter 7.0 to perform the following:

- Revised text from "M36 lifting rings or eyes" to "lifting hardware" for lifting the closure lid and the overpack cover.
- Added text to remove and install an optional plug.
- Corrected subsection numbering.
- Corrected the tightening torque for the seal test port plug.

The modifications and corrections were made to clarify the descriptions already included in the Safety Analysis Report and to provide additional operation descriptions found by the applicant to be necessary. These modifications do not affect the safety basis and will not impact the performance of the package design. The staff finds the package operations continue to meet the requirements of 10 CFR Part 71.

CONDITIONS

The following changes have been made to the Certificate of Compliance:

Condition No. 5(a)(3) Drawings, has been updated to reference the updated drawings.

The References section has been updated to include this revision request.

CONCLUSION

The Certificate of Compliance has been revised to reference the revised drawings. Based on the statements and representations contained in the application, the staff concludes that these changes do not affect the ability of the package to meet the requirements of 10 CFR Part 71.

Issued with Certificate of Compliance No. 9305, Revision No. 1,
on June 17, 2011.

REGISTERED USERS FOR COC NO. 9305

Mr. Gary L. Clark
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U. S. Department of Energy
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